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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,399	01/04/2005	Hideharu Iwasaki	263048US0XPCT	6829
22850	7590	04/01/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MCCRACKEN, DANIEL	
			ART UNIT	PAPER NUMBER
			1793	
			NOTIFICATION DATE	DELIVERY MODE
			04/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/519,399	Applicant(s) IWASAKI ET AL.	
	Examiner DANIEL C. MCCracken	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 and 55-61 is/are allowed.
- 6) ☒ Claim(s) 33-34, 36-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Citation to the Specification will be in the following format: (S. # : ¶/L) where # denotes the page number and ¶/L denotes the paragraph number or line number. Citation to patent literature will be in the form (Inventor # : LL) where # is the column number and LL is the line number. Citation to the pre-grant publication literature will be in the following format (Inventor # : ¶) where # denotes the page number and ¶ denotes the paragraph number.

Response to Arguments

Status of the Application

The finality of the office action dated 10/17/2008 is WITHDRAWN in light of Applicants RCE filed 1/21/2009. Claims 33-61 are currently pending. The restriction requirement is WITHDRAWN as discussed *infra*.

Restriction

In light of Applicants amendment, the restriction requirement is WITHDRAWN.

Claim Rejections – 35 U.S.C. §102

Applicants remarks and advantages as set forth on pages 11-15 are noted, but are not persuasive as they fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Any advantages or

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unexpected results presented are not persuasive in traversing anticipation rejections. *See* MPEP 2131.04.

With respect to the rejection of Claims 33-34, 36-41, 43-51 under 35 U.S.C. 102(b) as being anticipated by Nakamura, et al., *Influence of physical properties of activated carbons on characteristics of electric double-layer capacitors*, J. Pwr. Sources 1996; 60: 225-231, note that two rejections have been made, one under 35 U.S.C. 102 and one under 35 U.S.C. 102/103. *See* (Final Office Action of 10/17/2008 at 6-7). The remarks would appear to only address the rejection under 102/103. Note that 102/103 rejections have been approved for cases that – like here – employ product-by-process claims. MPEP 2113 states:

“[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. *We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable.* As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.” *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

(emphasis added). When such a rejection is made, the burden then shifts to the Applicant. MPEP 2113 further states:

“The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in

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the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). ***Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product.*** *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) (The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be “essentially free of alkali metal.” The court upheld the rejection because the applicant had not come forward with any evidence that the prior art was not “essentially free of alkali metal” and therefore a different and unobvious product.).

(emphasis added). No evidence was provided to traverse the 102/103 rejection. As such, the Examiner is treating the response as a traversal to the rejection under 35 U.S.C. 102.

Applicants traversal is on the grounds that because Nakamura does not disclose the process limitations as set forth in Claim 33, 36 and 43. *See generally* (Remarks of 1/21/2009 at 16). Claims 33, 36 and 43 – drawn to polarizing electrodes - all contain the following limitation: “wherein the activated carbon is obtained by subjecting an easily graphitizable carbonaceous material to an alkali activation treatment.” *See e.g.* (Claim 33). The “obtained by subjecting” language is a product-by-process limitation. As noted in prior office actions, “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

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(citations omitted). *See also* MPEP 2113, et seq. “The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product.” MPEP 2113 (citing *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979)).

Thus, independent product Claims 33, 36, and 43 require: activated carbon, a binder, and a conductive material. The only structure suggested by the product-by-process limitation is that activated carbon be present, with the various metal contents claimed. Note that activated carbon is a term of art. The International Union of Pure and Applied Chemistry defines activated carbon as “a char which has been subjected to a reaction with gases, sometimes with the addition of chemicals, *e.g.* ZnCl_2 before, during or after carbonation in order to increase its adsorptive properties.” *See Recommended Terminology For The Description of Carbon As a Solid*, Pure & Appl. Chem. 1995; 67(3): 473, 476. It is immaterial – insofar as product by process claims are concerned – whether a process start with coke, pitch, coconut hulls, etc. so long as it is carbonized and activated. After the activation treatment, it becomes activated carbon.

Specifically, with respect to Nakamura, Applicants traverse comments from prior office actions related to the Markush limitation in the independent product claims. Applicants state “the term easily graphitizable carbonaceous material is described in the specification (page 30, line 12 to page 32, line 18) as melt spun fibers prepared from the specific materials recited in the Markush listing, *which have specific dimensional properties* (page 32, lines 8-11) and therefore the claim description considered in view of the specification recites specific properties of the

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invention which are not disclosed or suggested in the cited reference.” (Remarks of 1/21/2009 at 16) (emphasis added). This not persuasive because, assuming *arguendo* that “specific dimensional properties” are disclosed in the specification, they are not imported into the claim. “Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.” *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004). Here, the claim – which recites only “activated carbon” - is broader than the disclosed passage at (S. 32: 8-11) which recites pulverized material of specific dimensions.

Applicants arguments with respect to the metal content are not understood. As noted above, the product claims are product-by-process claims. The only issues germane to patentability are what structure/composition are suggested by the steps. Here, the claims suggest a metal content of various concentrations, which was addressed in previous office actions. *See* (Final Office Action of 10/17/2008 at 6). As noted in the Final Office Action, the metal content limitation has indeed been considered and was not disregarded. As drafted, the claims cover a metal content of zero.

Claim Rejections – 35 U.S.C. §103

As noted above, two rejections (§102 and §§102/103) were made. Applicants remarks with respect to the rejections were either addressed together or towards the §§102/103 only. No

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evidence to rebut the §§102/103 rejection was presented. The rejection is believed to be addressed in light of the discussion above.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 43 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendment to Claim 43 to recite alkali metal content of 200 ppm is not supported by the specification. The remarks (*see* Remarks of 1/21/2009 at 11) state that support is found at (S. 10: 10-17). Said passage states "Here, the overall content of alkali metals in the activated carbon of the present invention is 100 ppm or less." (S. 10: 19-21). Thus, there does not appear to be support for the 200 ppm limitation.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 33-34, 36-41, 43-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura, et al., *Influence of physical properties of activated carbons on characteristics of electric double-layer capacitors*, J. Pwr. Sources 1996; 60: 225-231 (hereinafter “Nakamura at ___”).

With respect to Claims 33-34, 36-41, 43-51 activated carbon electrodes with a binder (PTFE) are taught. (Nakamura at 226) (“2.3 Preparation of electrodes”). The current collecting plate, made of nickel-plated steel or the copper plate is the “conductive material.” *Id.* It is expected that the activated carbons of Nakamura necessarily teach the metal content claimed in Claims 33-34, 36-41, and 43-50 as well as the properties claimed in Claim 51. Nakamura uses coconut as the carbonaceous material and Applicants have stated on and for the record that this kind of material can be used. (S. 12: 2-11). Note that physical (steam) activation versus chemical (*e.g.* alkali) activation is taught. (Nakamura at 226, “Table 1”). Thus, it is can be expected that these activated carbons will have a lower alkali metal content. Applicants have stated on and for the record that “there are no particular restrictions on the activation treatment; conventional universally known gas activation treatments and chemical activation treatments may be used.” (S. 12: 12-15). Thus, because the starting material Applicants state can be used is taught and the activation method that Applicants state can be used is taught, it is expected that the metal content as claimed is taught. This is the evidence offered to show inherency. “[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency’ under 35 U.S.C. 102, on prima facie obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted].” The burden of proof is similar to that

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required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). See above with respect to product-by process claims.

Claims 52-54 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,891,822 to Oyama, et al.

With respect to Claim 52, Oyama teaches alkali activation of vinyl chloride resins. (Oyama 8: 14-25). The activated carbon is washed with an acid. (Oyama 8: 31). The activated carbon is mixed with a conductive material (Oyama 8: 39) and a binder (Oyama 8: 41) to make an electrode (Oyama 8: 44-45). As to Claim 53, KOH is recited. (Oyama 8: 22). As to Claim 54, HCl is taught. (Oyama 8: 31). It is expected that the HCl is in an aqueous solution, as Oyama recites “washing” and HCl is a gas at room temperature, so it is typically used in aqueous form to facilitate handling, etc. This is the evidence offered to show inherency. “[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency’ under 35 U.S.C. 102, on prima facie obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted].” The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. As to the rejection under 35 U.S.C. §§ 102/103, where the applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the Examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. See MPEP 2112 III. (discussing 102/103 rejections). The practice of rejecting product-by-process claims under 35 U.S.C. §§ 102/103 has also been approved. *See* MPEP 2113 (“THE USE OF 35 U.S.C. 102 /103 REJECTIONS FOR PRODUCT-BY-PROCESS CLAIMS HAS BEEN APPROVED BY THE COURTS”).

Claims 33-34, 36-41, 43-51 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura, et al., *Influence of physical properties of activated carbons on characteristics of electric double-layer capacitors*, J. Pwr. Sources 1996; 60: 225-231.

The preceding discussion of Nakamura accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. See above with respect to 102/103 rejections.

Claims 52-54 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,891,822 to Oyama, et al.

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The preceding discussion of Oyama accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. See above with respect to 102/103 rejections.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,891,822 to Oyama in view of US 2,567,468 to Berl.

With respect to Claim 42, Oyama teaches alkali activation of vinyl chloride resin and subsequent incorporation into an electrode. *See generally* (Oyama 8: 13-60) ("Example 1"). To the extent Oyama may not disclose the basic wash, Berl teaches washing activated carbons with ammonia (i.e. a base as described at S. 21: 9) to remove potassium and heavy metal compounds. (Berl 7: 59-73). One would be motivated to wash the activated carbon of Oyama in the manner described by Berl to remove any unreacted activator (i.e. potassium) as suggested by Oyama. (Oyama 3: 66 *et seq.*).

Allowable Subject Matter

Claims 35 and 55-61 are allowed. The following is a statement of reasons for allowance: The independent claims (Claims 35, 55, 56 and 57) are drawn to alkali activation of carbonaceous substances followed by various washing schemes (*e.g.* sequences of acid treatment as in Claim 35; water followed by acid at specific temperatures as in Claim 55; water followed by carbonic acid/carbonated water followed by ammonia at specific temperatures as in Claim 56, and the process of Claim 56 plus an additional washing step as claimed in Claim 57). The search of the prior art uncovered various activation and wash processes. The Examiner makes record of US 2002/0096661 to Shinozaki, et al. and US 5,891,822 to Oyama. *See generally* (Shinozaki 7:

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[0081]) *and* (Oyama 8: 13-60) (both describing KOH activation followed by water and HCl washes). Likewise, carbonic acid, hydrochloric acid, and ammonia are known activating agents. *See* (US 6,225,256 to Shawabkeh, et al. at 3: 40-46). The prior art however did not teach or suggest the steps of the process in the order as claimed with the specificity as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL C. MCCracken whose telephone number is (571)272-6537. The examiner can normally be reached on Monday through Friday, 9 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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